ABSTRACT

An encoder encodes sound data and the like to generate a binary signal. A mapper converts the binary signal into a quaternary symbol and outputs the quaternary symbol. A base band filter includes a root raised cosine filter and a sinc filter. The base band filter blocks a predetermined frequency component of a symbol to shape the symbol into a waveform signal and outputs the waveform signal shaped. An FM modulator transmits a signal subjected to FM modulation according to a magnitude of an amplitude of a waveform signal to a receiving unit. When a symbol of ±3 is outputted from the mapper, a frequency shift of a signal transmitted from the FM modulator has a predetermined value in a range of ±0.822[kHz] to ±0.952[kHz]. This makes it possible to provide a modulating apparatus, a mobile communication system, a modulating method, and a communication method that use a modulating method that can conform to the FCC rule to be enforced in 2005 without using a linear power amplifier.